The economic importance of sport for all

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The challenge

"promoting physical activity is considered the best buy in public health"

– *Bauman, Murphy and Lane (2008)*

An evidence based approach to promoting physical activity

1. Evidence of health benefits of PA
2. Evidence on prevalence of PA
3. Evidence on what succeeds in promoting PA
4. Evaluation of practice

Cavill et al. (2006)

Physical inactivity is not only harmful to health, it affects economic activity

- Epidemiological evidence
- Microeconomic evidence
- Macroeconomic evidence

Epidemiological studies

- Diseases attributable to lack of physical activity:
  - Ischaemic heart disease
  - Cerebrovascular disease
  - Breast cancer
  - Colon/rectum cancer
  - Diabetes mellitus

- Not necessarily about obesity
  - Individuals with high BMI who are physically active were half as likely to die from cardio-vascular disease as those with low BMI but physically inactive *(Blair (2009))*

Microeconomic studies

- Cost of illness studies
  - Direct effects: additional expenditure on healthcare
    - 2.5% of health expenditures in Canada (*Katzmarzyk, Gledhill and Shephard (2000))*
    - £1.06 billion per year in UK *(Allender, Foster, Scarborough and Rayner (2007))*
    - 1.5-3% of total healthcare costs (*Oldridge (2007))*
    - 1.3% of healthcare costs in Australia *(Cadilhac, Cumming, Sheppard, Pearce, Carter and Magnus (2011))*
  - Indirect effects: reduced productivity and reduced labour supply
    - £6.5 billion in UK *(Ossa and Hutton, (2002))*
    - C$2.3 billion in Ontario, Canada *(Katzmarzyk (2011))*
    - 3.5 to 8.7% of GDP in China *(Popkin, Kim, Rusev, Du and Zizza (2006))*
    - Possible further impacts on investment in education

Macroeconomic studies

- Good health has a strong positive impact on economic growth
  - 1 year increase in life expectancy leads to 4% increase in output *(Bloom, Canning and Sevilla (2001))*
- Shift of emphasis from communicable to non-communicable diseases
- Impact of cardio-vascular disease on growth (*Suhrcke and Urban (2006))*
  - 31% of CVD occurs in population under 65
  - Significant negative effects in high income countries
  - 1% increase in mortality from CVD reduces growth by 0.1% , equivalent to €500 billion *per year* in EU after 20 years

Business cycle effects

- Increased work hours associated with increased smoking, increased alcohol consumption, fewer visits to the doctor and less physical activity *(Xu and Kaestner (2010))*

- But physical activity decreases in a recession
  - Recreational PA only 4% of total PA
  - Work related PA falls in a recession
  - Unemployment increases physical inactivity *(Colman and Dave (2011))*

Individual effects I

- Prevalence of inactivity much greater among
  - The poor
  - The less well educated
- From low income to poor health
  - Childhood deprivation may have long term effects
- From poor health to low income
  - Poor health reduces labour supply, uses up savings, reduces incentive to work

Individual effects II

- Participation in sports in Germany adds about 5-10% to earnings, equivalent to an additional year of education, *Lechner (2009)*

- Employers in Sweden appear to place a high value on job candidates who participate in golf and football (equivalent to about 1 extra year of work experience), but not in other sports, *Rooth (2010)*

Recommended dosage

- at least 30 minutes of regular, moderate-intensity physical activity on most days reduces the risk of cardiovascular disease and diabetes, colon cancer and breast cancer.
  - *WHO guidelines*

- Adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2½ hours) of moderate intensity activity in bouts of 10 minutes or more – one way to approach this is to do 30 minutes on at least 5 days a week.
  - *Four home countries' (UK) Chief Medical Officers*

- Some reluctance to recommend intensive activities (and thus sport) in the past, but signs of more willingness today

Interventions I

- Doctors traditionally focused on treating other risk factors *(Bauman et al)*

- Primary care devoted to achieving behavioural change through counseling, but limited evidence of long term impacts *(NHS, 2005)*
  - advice in a medical setting has little effect beyond 6-12 weeks
  - Referral to exercise specialist can have larger effects (> 8 months)

- Moral hazard problem *(Voigt (2010))*
  - Social insurance diminishes incentive to adopt healthy behaviours
  - Growing role of incentives: rewards for actions (e.g. following courses of treatment) and for outcomes (e.g. Weight loss)
  - Rewards can be in cash, goods, or in the form of discounts for services

Interventions II

Population based initiatives

- Major sporting events
- The built environment
- Sport for all

Major sporting events

- Generally operate on a scale that is much larger than that required to meet local needs

- Our search indicated that there is much rhetoric but limited evidence that major or mass sporting events impact physical activity participation at the individual, community or environmental level
  - *Murphy and Bauman (2005)*

Built environment

- Transport- evidence that obstacles to non-car transport (e.g. walking, cycling) associated with physical inactivity

- Sports facilities-
  - evidence that parks increase team sports participation but reduce walking – net effect small *(Humphreys and Ruseski (2007))*
  - Evidence that life satisfaction is greater in counties with better sports facilities *(Huang and Humphreys (2012))*

Sport for all – the opportunity

- Europeans tend to have a positive attitude toward sport

- Only 25% of Europeans say they do not like sport
- 78% think sport improves health
- 91% think sport effectively combats obesity
- 77% think more time should be given to sport in school timetables
  - *Eurobarometer 2004*

- 68% think local sports clubs offer opportunities to be physically active
  - *Eurobarometer 2006*

- Only 16% feel strongly that they are not interested in physical activity
- Only 5% say that cost is preventing them from taking part in sport
  - *Eurobarometer 2010*

Challenges

- 60% of EU citizens play sport never or rarely
- Only 12% belong to a sports club
- Only 11% practice sport at a club
- Most physical activity takes place in a park (48%) or “on the move” (31%)

Why are traditional sports clubs struggling to meet the demand?

- Demand side issues
  - Do sports clubs supply the sports that people want?
  - Overemphasis on competitive sport?
  - Time poverty for people of working age
- Supply side issues
  - Organizational costs- reliance on volunteering
  - Likely funding crises in years to come

Are funding issues the real problem?

- Only 5% say cost is a major barrier to participation
- 70% of sports revenues in the EU derive from households
- Time is the real constraint: 53% say they have opportunities to participate but do not have the time

Realizing Sport's Potential?

- Paradox: everyone know PA is good for you but most people do not get enough exercise
- Resolution: researchers have ignored the fact the PA also involves pain- to achieve the beneficial outcomes. Aversion to short-term pain may override perception of long term benefits
  - *Backhouse, Ekkekakis, Biddle, Foskett and Williams (2007)*
- Recreational football has health enhancing effects similar to interval training, continuous running and strength training
- Effects were equally marked in very different groups- e.g. middle aged women and elderly men
- Focus on the game achieves levels fitness that might induce significant discomfort if pursued by other means (e.g. Strength training)
  - *Krustrup, Aagaard, Nybo, Petersen, Mohr & Bangsbo*

Policy implications

- Responsibility and healthcare costs- discounts and rewards for playing football?
- Focus on the “time” issue- facilities need to be carefully integrated with the built environment
- Engagement between sports organizations and population-based health initiatives at national and EU level